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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,028	12/11/2003	Chueh-Hsin Chen	3422-P-14748	4187

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EXAMINER	
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ART UNIT	PAPER NUMBER
2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/736,028	CHEN, CHUEH-HSIN	
	Examiner	Art Unit	
	Kuen S. Lu	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/11/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Action is responsive to Applicant's Application filed December 11, 2003.

2. Please note claims 1-20 are pending.

Drawings

3. The drawings, filed December 11, 2003, are considered in compliance with 37 CFR 1.81 and accepted.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

The element "providing a system medium with a built-in operating system, and set in a remote server connected to said network" is not clear about "and set in a remote server connected to said network". Examiner interprets the phrase as "wherein said system medium is included in a remote server connected to said network". Appropriate correction is required.

Claim 1 is further objected to because the phrase "said operating system" in the step of "mirroring ... to ... of the second storage carrier" is ambiguous about which operating system is the said one – the one on the medium or the one newly installed to the first storage carrier.

Claim Rejections - 35 USC § 112

5.1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claim 1, the step of "mirroring said operating system ... to ... fourth storage device, respectively" is noted performed after the NAS to which the operating system medium attached is powered off and the operating system is not available for the mirroring operation (See specification Page 6, lines 13-16).

5.2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the claim is incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the source of "said operating system" – the medium, the newly installed or the newly mirrored – for being utilized in the mirroring steps..

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.1. Claims 1 and 2-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicholson et al. (U.S. Patent Application 2004/0153724, filed 8/5/2004, hereafter "Nicholson"), in view of Husain et a. (U.S. Patent Application Application 2004/0107420, filed 10/15/2003).

As per claim 1, Husain teaches "A method for installing a networked attached storage, said storage being connected to a network, and including at least a first, a second, a third and a fourth storage devices" (See Fig. 17, [0158] and [0005] where a NAS is implemented with a set of PCs and a group of disk drives whose manageability issues involve maintaining a large number of networked computer systems, including installation, deployment, topology and physical logistics of the network), the method comprising the steps of:

"providing a first and second storage carriers to connect to said first storage device and said second storage device, respectively" (See [0005] where a NAS is implemented with a set of PCs and a group of disk drives).

Husain does not explicitly teach "providing a system medium with a built-in operating system, and set in a remote server connected to said network".

However, Nicholson teaches "providing a system medium with a built-in operating system, and set in a remote server connected to said network" (See [0005] where one or more alternate bootable operating systems are provided in storage accessible by a server).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Nicholson with Husain references by implementing one or more operating systems accessible by computer systems to Husain's network systems because both references are directed to installation and deployment of computer systems in a networked architecture where Husain teaches mainly on troubleshooting network and computer system problem and Nicholson focuses on resolving computer starting up issues, and the combined teaching would have enabled Husain's user to manage network computers in a more efficient manner by fixing server problem on the site, without returning the server to manufacturer, such that the entire network would have avoided rendering useless because of problem occurring to a single server.

The combined teaching of the Husain and Nicholson references further teaches the following:

"installing said operating system in a system area of the first storage carrier" (See Nicholson: [0026] where the first operating system is stored);
"mirroring said operating system to a system area of the second storage carrier" (See Nicholson: [0026] where the first operating system is stored and alternate operating system is created in real time by RAID-1); and
"mirroring said operating system to a system area of the third and a system area of the fourth storage device, respectively" (See Nicholson: Fig. 6, [0004], [0025] and [0039] where a set of multiple operating systems are maintained and stored on external disks, and alternate operating systems are created by RAID-1).

As per claim 2, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein there are even storage devices set in said storage for setting a Redundant Array of Independent Disks" (See Nicholson: [0047] where operating system partitions are implemented by RAID-1 technique).

As per claim 3, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said storage device is a SCSI hard disk or a IDE hard disk" (See Nicholson: [0047] where operating system partitions are implemented by SCSI disk).

As per claim 4, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said network is a local area network or an Internet" (See Husain: [0074] where network is an internet).

As per claim 5, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said first storage carrier and second storage carrier are identical to said storage device" (See Nicholson: [0047] where operating system partitions are implemented by RAID-1 technique, preferably on identical disk drives).

As per claim 6, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said system medium is a CD-ROM drive for accessing an optical disk of DVD format or CD format" (See Husain: [0073] where storage medium is a CD-ROM).

As per claim 7, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said operating system is Windows, LINUX, UNIX or Netware" (See Husain: [0177] where operating system is a Microsoft Windows).

As per claim 8, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said remote server is a Windows Server or a compatible server" (See Husain: [0165] where NAS server is a compatible server to Windows server).

As per claim 9, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising a step of adding an account/password of a default user and a default IP address to the remote server, and setting the system medium to be accessible to the default user" (See Husain: [0203] where connecting a system is an IP-based network connection).

As per claim 10, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising: providing a BIOS with network boot ROM in the storage device and turning on the NAS to establish connection between the NAS and the remote server through operating said BIOS" (See Husain: [0130] and [0152] where BIOS implemented on NAS architecture).

As per claim 11, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising: partitioning said first storage carrier into a system area and a data

area, and formatting said system area" (See Nicholson: [0039] where operating systems are mirrored on the first partition of disks).

As per claim 12, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising: logging into the operating system of said first storage carrier through a remote computer connected to the network" (See Husain: Fig. 9 and [0135] where a remote server login is a web browser-based).

As per claim 13, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, wherein said storage carrier is a spare Fixed Hard Disk" (See Husain: [0158] where hard disk and SAN implementation is both fixed and removable based).

As per claim 14, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising: partitioning said second storage carrier into a system area and a data area, and formatting said system area" (Examiner takes official notice that storage partitions are formatted before readying for data storage).

As per claim 15, the combined teaching of the Husain and Nicholson references

further teaches the method for installing networked attached storage as in claim 1, further comprising:

"removing said first storage carrier" (See Husain: [0165] where storage is removed);
"connecting said second storage carrier to said first storage carrier" (See Husain: [0165] where storage is replaced);
"providing a third storage carrier and connecting to said second storage device" (See Husain: [0165] where storage is removed and replaced); and
"mirroring said operating system to the system area of said second storage device" (See Nicholson: Fig. 6, [0004], [0025] and [0039] where a set of multiple operating systems are maintained and stored on external disks, and alternate operating systems are created by RAID-1).

As per claim 16, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 15, further comprising: turning off said networked attached storage before removing said first storage carrier" (See Nicholson: [0050] device power is cycled, and Husain: [0165] where storage is removed and replaced).

As per claim 17, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 15, further comprising: turning on said networked attached storage before mirroring said operating system" (See Nicholson: [0050] device power is cycled, and Husain: [0165]

where storage is removed and replaced, Nicholson: Fig. 6, [0004], [0025] and [0039] where a set of multiple operating systems are maintained and stored on external disks, and alternate operating systems are created by RAID-1).

As per claim 18, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 15, further comprising: partitioning said third storage carrier to form a system area and a data area and formatting said system area" (See Examiner takes official notice that storage partitions are formatted before readying for data storage).

As per claim 19, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 15, further comprising: partitioning said third storage device and fourth storage device to form a system area and a data area" (See Nicholson: [0039] where operating systems are mirrored on the first partition of disks).

As per claim 20, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising: setting said third and fourth storage devices to be a mirroring source for restoring the first storage device" (See Nicholson: [0034] and [0062] where operatng is restored).

As per claim 21, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 1, further comprising: formatting equivalently all the data areas of said storage devices to form a redundant array of independent disks (RAID)" (See Nicholson: [0050] device power is cycled, and Husain: [0165] where storage is removed and replaced, Nicholson: Fig. 6, [0004], [0025] and [0039] where a set of multiple operating systems are maintained and stored on external disks, and alternate operating systems are created by RAID-1).

As per claim 22, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 21, wherein said storage device is of even amount and used to be paralleling storage of said redundant array of independent disks (RAID) to enhance efficacy of the storage" (See Nicholson: [0050] device power is cycled, and Husain: [0165] where storage is removed and replaced, Nicholson: Fig. 6, [0004], [0025] and [0039] where a set of multiple operating systems are maintained and stored on external disks, and alternate operating systems are created by RAID-1).

As per claim 23, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 21, wherein said storage device is of even amount and used to be mirroring storage of said redundant array of independent disks (RAID) to increase security and fault tolerance of

the data in the storage" (See Nicholson: [0050] device power is cycled, and Husain: [0165] where storage is removed and replaced, Nicholson: Fig. 6, [0004], [0025] and [0039] where a set of multiple operating systems are maintained and stored on external disks, and alternate operating systems are created by RAID-1).

As per claim 24, the combined teaching of the Husain and Nicholson references further teaches "The method for installing networked attached storage as in claim 21, wherein said redundant array of independent disks is a RAID Level 5 format by a distributed parity check in some or all storage devices" (Examiner takes official notice that RAID-5 is parity bit checked).

Conclusion

5.1. The prior art made of record

B. U.S. Patent Application 2004/0107420

A. U.S. Patent Application 2004/0153724

5.2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

C. U.S. Patent Application 2005/0015642

D. U.S. Patent 7,103,739

E. U.S. Patent Application 2003/0018850

F. U.S. Patent 6,757,841

Contact Information

6. Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Kuen S. Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 703-305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 703-305-3900 (toll free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, please call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kuen S. Lu,

Patent Examiner, Art Unit 2167

August 2, 2007